

MAY 27 2003

Via fax and Mail

Anthony Cinque, Case Manager
Bureau of Federal Case Management
New Jersey Department of Environmental Protection
401 East State Street
P. O. Box 028
Trenton, New Jersey 08625

RE: L.E. Carpenter Superfund Site, Wharton, New Jersey.
Review and comment on the report entitled Focused Feasibility Study (FFS), Lead Impacted Soil Remediation, dated February 28, 2003.

Dear Mr. Cinque:

The U.S. Environmental Protection Agency (EPA) has completed its review and comment on report entitled Focused Feasibility Study (FFS), Lead Impacted Soil Remediation, dated February 28, 2003, for the L.E. Carpenter Superfund Site, Wharton, New Jersey, and provides the following comments on the attachment.

Please note there are significant comments on the report. If you have any questions or comments on this letter, please feel free to contact me at (212) 637-4411. Thank you for the opportunity to review the above report.

Yours truly,

Stephen Cipot, Remedial Project Manager
Southern New Jersey Remediation Section

Attachment

bcc: Salvatore Badalamenti, SNJRS
Robert Alvey, PSB
Michael Sivak, PSB
Mindy Pensak, Coordinator, DESA-HWSB
Rajini Ramakrishnan, ERS
Francis Zizila, ORC
Stephen Cipot, SNJRS

CONCURRENCE

Name: CIPOT		DATE: 5/27/03		Init: BM	Filename: G:/USER/SHARE/ERRDIV/FFS-Rrw-2.wpd			
Symbol	SNJRS							
Surname	CIPOT							
Date	5/28/03							

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General Comments:

1. The current ROD remedy (FFS Alternative 1) calls for the excavation and off-site removal of wastes and soils contaminated with lead above 600 ppm. The FFS recommended Alternative 2, which involves the use of soil with lead concentrations greater than 400 ppm as backfill and fill material within an on-site containment area of approximately 1.5 acres. The proposed remediation goal for lead of 400 ppm is based on a New Jersey residential soil cleanup value. The FFS proposes that soils are to be categorized and handled, as follows:

Category A will be stockpiled for potential reuse or off-site disposal depending on whether Alternative 2 is approved.

Category B soils representing process-waste contaminated soils will be transported to an approved off-site disposal facility as a hazardous waste. Thus, Category B soils will not be treated differently than the ROD.

Category C soils are considered "clean" soils and will be used as backfill. Thus, Category C soils will not be treated differently than the ROD.

Category D soils contaminated with free-product will be disposed of off-site. Thus, Category D soils will not be treated differently than the ROD.

In general, EPA concurs that the recommendation in the FFS to consider a change in the selected 1994 Record of Decision (ROD) remedy may be appropriate under the circumstances, if sufficiently supported by the FFS. Based on our review of appropriate EPA guidance on this matter and our evaluation of the proposed change, we believe that the proposed change is a fundamental change to the ROD remedy and would require a ROD Amendment. See Guide to Addressing Pre-Rod and Post-ROD Changes, OSWER Publ: 9355.3-02FS-4, April 1991.) Because the FFS recommends a change in the hazardous waste management approach for the Site, alters the scope of remedy (i.e., remediation goals, type and volume of wastes) and the long-term effectiveness of the current remedy, in order to justify such a change in the ROD, the FFS should be revised in accordance with the following comments:

First, the preference for off-site disposal that is detailed in the current ROD must be shown to be outweighed by other factors in order to justify changing the selected remedy. The FFS should include detailed cost estimates for disposal, as presented, as well as capping and long term monitoring and maintenance (O&M) for the proposed new remedy. The latter was not presented and considered in the FFS. The stated assumption that these costs will be borne by a municipality is not an acceptable means of not including them for estimating purposes. All associated O&M should be presented and evaluated in a revised FFS as soon as possible. O&M costs should be projected for a 30 year

period, and added to the total costs for the proposed new remedy, so that an adequate comparison to the ROD remedy can be made. In addition, it is anticipated that deed restrictions and institutional controls will be needed. These considerations must similarly be sufficiently presented and evaluated in the FFS. Furthermore, since lead contaminated soils are to be left on site, in order to ensure that the revised remedy remains protective, this remedial alternative must also require a long term monitoring plan for lead in groundwater at appropriately selected sampling points, considering local public water supplies, if necessary, as well as at selected groundwater discharge points to the Rockaway River. The estimated cost of this monitoring must similarly be projected for a 30 year O&M period.

In addition, the cost comparison between Alternatives 1 and 2, as presented in the FFS, show what the text on page 1-1 labels a "significant" difference in costs between the two remedies, amounting to approximately \$562,420. However, Alternative 2 (capping) comparison does not include 30 year Operation & Maintenance (O&M) costs. Remedial costs for Alternative 2 must include O&M costs, which become necessary in this case when leaving lead soils on-site. O&M costs are typically factored into CERCLA remedies. O&M costs would include all operating costs such as those associated with maintaining the cap, groundwater monitoring, repairs, engineering fees. Once these costs have been factored into the comparison, it is strongly believed that there will not be much practical or "significant" cost differential, if any, between the two alternatives. Because the ROD remedy requires all contamination to be removed permanently off-site, it is the more permanent remedy and requires no long term O&M or deed or lease restrictions. Leaving waste on-site is a less permanent remedy and would entail the township assuming long term O&M costs, not just for the 30 years period that would be costed out, for as long as the township were to hold deed to the property, and thus be a potential long term drain on taxpayers. Moreover, deed restrictions would further place serious limitations on any future use the township might want to consider should the township's plans change in the future.

In addition, if the replacement of wetlands losses (mitigation) were to become necessary due to the remedial action, as stated in the comment below that specifically deals with wetlands, any associated replacement costs, O&M costs, and post-mitigation wetlands monitoring should be presented and factored into the cost of the remedy.

Also, the FFS should specifically describe how the new proposed conceptual plan for LNAPL is quite a bit more aggressive than what had been proposed in the ROD. As stated in our previous review of the report, Findings and Recommendations Regarding a Conceptual Free Product Remediation Strategy (the LNAPL conceptual plan), EPA supports the aggressive approach that was outlined in the LNAPL conceptual plan, however, the document as submitted is not a credible design. A credible design plan must still be submitted and approved by both the EPA and NJDEP. However, for purposes of considering

Alternative 2, the FFS would benefit by specifically outlining key differences between the LNAPL and groundwater remedy outlined in the ROD, and the new approach outlined in the LNAPL conceptual plan and FFS.

2. The term "Beneficial Reuse" is a misnomer and should be deleted from the text and heading. It should be noted that either proposed remedy, including the selected ROD Remedy, requires cleanup of the site for beneficial reuse, thus, the term, as applied is confusing and appears to present a favorable attitude for a certain outcome or case, in this case capping and leaving lead soils on site. As stated above, the most conservative beneficial "Beneficial Reuse" option is actually the existing selected ROD remedy, because all contamination will be removed permanently off-site, requires no long term operation and monitoring, and no deed or lease restrictions.
3. Page 2-1, states that 4 of 11 hot spots identified during the RI are hot spots associated with lead-impacted soils. These hot spots are A, B, C, and D. Through personal communication, it appears that there is no documentation regarding the final disposition of soils from these hot spots when they were excavated by the previous contractor, Weston, in the mid 1990s. It is believed that some soils from most of these hot spots were disposed of off-site, while some were consolidated on top of the demolition debris associated with Building 14. Please clarify whether this is where the soils are also presently located. In addition, in itself, the mixing of a large volume of demolition debris with lead contaminated soils that should have been sent off-site for disposal is a variation in the ROD remedy. This point should be clearly identified in the FFS. Moreover, the FFS states that the remediation of Hot Spots A and D are complete and meets the requirements of ROD. This language is not correct and should be either modified or deleted. The ROD required off-site disposal which was not been complied with and which is the subject of the remedy change being proposed in the FFS. Excavation of the Hot Spots is only a partial requirement of the ROD. Moreover, Hot Spots B and C are only partially excavated.

In addition, the ROD called for the excavation and disposal of soils containing Polychlorinated biphenols (PCB's), however, historical documentation appears to be lacking as to what happened to the PCB soils. Were they excavated and removed off-site, or were they placed in the same areas as the above mentioned lead and demolition debris? The FFS should clarify this point.

4. Page 2-2, Section 2.2.2: The text states, "...NJDEP consider an alternative clean-up standard...." The text should be revised to clarify that there are no soil standards (promulgated values) in the state of New Jersey, and that the soil values are criteria. This inconsistent use of the term "standard" occurs throughout

the document, and should be corrected.

5. Page 2-4, third paragraph, the text should identify the applicable New Jersey Ground Water Quality Criteria for lead.
6. Page 2-4, third paragraph, as stated above, the text should be modified as it is not the case that implementing the ROD remedy for off-site disposal of lead "represents a significant post-ROD change and is considered the major driver in the preparation of this FFS." The FFS has not yet presented a clear argument to substantiate that this is the case, and needs to be modified.
7. Page 2-4, the FFS states that the November 2001 investigation concluded that there is approx. 7,700 cubic yards of materials on-site exhibiting concentrations of lead in excess of 600 mg/kg. Note that this is a site-wide figure. Does this reference pertain to the Nature and Extent of Lead in Soils and Groundwater? Please clearly identify the report in the FFS. Later, on page 5-11, the figure increases to "approximately 10,000 cubic yards (cy)," (note that page 5-13 lists 10,190 cy), which may have been updated in the FFS to include additional lead and soils that are proposed to be remediated to the lower 400 Ppm level, however, this was not clearly stated in the text. Please clarify if this is the case. In addition, there appears to be a misleading statement where the FFS states that the original ROD remedy had anticipated an estimated amount of lead soils for excavation and disposal, was 30 cy and 67 cy, for hot spots B and C, respectively. Based on a total estimate of 97 cy, the FFS then concludes that there is now a substantial increase in volume of lead-impacted materials requiring excavation and off-site disposal. Please note, this is an apples and oranges comparison. The 1994 ROD, table 4, selected alternative 4 remedy clearly identifies that the estimate for excavation and off-site disposal is 1400 cy for the entire site. The FFS needs to compare the original figure in the ROD, to the 7,700 cy figure that came out of the Nov. 2001 investigation, and any justifiable increase, as stated above. The FFS cannot compare the original figures for hot spot B and C removal with the current site-wide lead-contaminated soil figure. This is not an accurate or defensible comparison.

The FFS again states this erroneous comparison on page 3-1 where it compares the site-wide removal figures with the volumetric estimates for hot spots B and C alone. However, what about hot spots A and D? In addition, as stated in the FFS, we do not know the final disposition of the lead-contaminated material excavated from hot spots from A and D. Some is believed to have been disposed of off-site, and some left on-site in the debris identified as the "Former Waste Disposal Area," which also appears to contain a large amount of demolition debris, the volume of which appears to have been added to the total volume of material to be re-used on-site as fill. Please clarify these

points.

8. The FFS proposes the reuse of coarse subsoil material. Page 2-6 states greater than 3-inch fraction, and page 4-6 states greater than 2.5 inch fraction, will be used as backfill. Please clarify which screen size will be used, or both sizes. In addition, the FFS should clearly indicate whether any coarse fill material will be located either adjacent to wetlands or below the seasonal high and low water tables. Page 4-8, indicates that reused site materials, apparently coarse and otherwise, will be above the high water table, however any imported fill must also be fine grained. In addition, during the meeting in September 2002, between the NJDEP, EPA and representatives of the PRP, held at EPA's facility in Edison, the consultant had mentioned the possible inclusion of both a bottom and top synthetic liner, to prevent contact of the lead wastes with both rainwater and groundwater, however, there is no mention of either in the FFS. Costing for synthetic liner(s) is also apparently not included. What is the justification for not including them? Coarse materials in the backfill may act as a "french drain" and conduit facilitating water movement, potentially inundating and bathing the lead in place, causing leaching, and/or dewatering parts of the wetlands. Both should be avoided, and the bottom of the containment area should be located an adequate distance above groundwater. Moreover, a synthetic liner would also help in the event that the bottom of the containment area cannot be optimally located an adequate distance above groundwater. The FFS should clearly provide cross section diagrams through the containment area which identify that the bottom of the fill will be a certain adequate minimum distance above high groundwater. EPA's July 19, 2002, letter previously commented (Comment 2) that more information needs to be presented and considered pertaining to an on-site capping remedy, in order to ensure lead contaminated soils will not impact groundwater. A revised FFS should be submitted which includes this evaluation.

Moreover, in this regard, there does not appear to be a significant enough distance separating the groundwater table from the proposed buried contaminated soils. If burial is conducted, steps should be included to monitor and maintain the groundwater level below the contaminated soils containment area. However, this may be technically impracticable as the document "Findings and Recommendations Regarding a Conceptual Free-Product Remediation Strategy", states that installation of groundwater controls to aid in excavation of soils beneath the water table are not practical for a variety of purposes. EPA has experience at several sites where the control of groundwater levels has proven to be much more expensive than originally anticipated. If on-site burial of the contaminated soils is implemented, depth to water needs to be minimized to prevent direct contact with the water table. The concerns for potential surface water contamination do not appear to have been adequately addressed in

the FFS. Please also refer to Specific Comment 2 of EPA's July 19, 2002 comment letter. As mentioned above, no details are provided or costed (as per page 4-9) with respect to the type of cap, what type of material, how much fill will be used except that it will be "coarse granular fill material," its thickness, or the use of a synthetic liner, clay, or asphalt. These details should be provided. Anything that is necessarily a part of the proposed remedial action, and the mitigation of contamination, preventing the infiltration of rainwater or groundwater and spread of contaminants, must be included for evaluation and costed out as part of the remedy. Based on the FFS, there are no details provided on the cap, and it does not appear that it will address these issues.

9. Page 2-6, while EPA strongly favors the proposal outlined in the LNAPL conceptual plan, the details must be fully presented and outlined in an approved design plan. The design plan has yet to be submitted.
10. Page 3-2, Section 3.2.2: Since the likely future land use has changed from industrial/commercial to recreational and commercial, the cleanup goal for lead in soil must be revised to 400 mg/kg. The value of 600 mg/kg is protective for adults only, and is not meant to be applied to locations at which children will be present. The recreational area in particular is of most concern. The likelihood that children under the age of 6 may be exposed to the soils in this area with a regular frequency (such as daily trips to the park) is very high. The text throughout the FFS should clearly state that the cleanup goal is lowered to 400 mg/kg based on the likely future land use and that children will now be a population of concern.
11. Page 4-3, regarding the well replacement plan, it is not at all clear why ten wells are to be replaced for monitoring purposes once the remedy has been implemented, as no rationale and location map have been provided. It is noted that "approximately" 28 existing wells are proposed to be removed and abandoned, but no adequate explanation is provided as to what criteria are to be used to determine whether a well needs to be replaced, protected, or abandoned. These specifics need to be clarified and tailored to the objectives identified, in this case, MNA. We would want to see and approve any well replacement plan that might be put into use. This can be presented in a separate submittal, and not the FFS, however, the FFS should identify and clarify that this will be the case.
12. Page 4-4, S Section 4.4.2: Site Control Measures, the text does not identify where the items presented will be clearly outlined. As with the above comment, they can be outlined in a remedial action plan. The FFS should clearly identify where these items will be that these items will be outlined in a remedial action plan.

13. Page 4-4, Section 4.4.2: The soil erosion and sedimentation control measures must include a component that monitors the lead concentrations in surface water and sediment. Due to the high concentrations of lead in the soils near the Rockaway River and the possibility of ongoing soil erosion into the river, ongoing monitoring of both the surface water and the sediment must be part of this plan. As mentioned previously, associated costs should also be included and factored into O&M, as part of the proposed remedy.
14. Page 4-4, Section 4.4.2: This section should also detail the groundwater monitoring plan. With four public community supply wells within one mile downgradient of the site, the groundwater should continue to be monitored to ensure that leaching does not occur in the future.
15. Page 4-4, Section 4.4.2: The description of wetland mitigation measures identifies 400 mg/kg as the benchmark for lead. However, this concentration is based on protecting human health, not ecological receptors. Please revise this text to include an appropriate benchmark for ecological receptors in the wetlands.
16. Page 4-5, where will materials be stockpiled and staged? The location for stockpiling and staging should be clearly identified in the text and labeled on the figures. These areas should be located as far away from the wetlands and river, as possible.
17. The EPA has previously commented that potential ecological impacts of any proposed remedy change must be adequately addressed (EPA's comment letter of July 19, 2002). In 1992, a baseline ecological assessment was conducted on aquatic community level biological assessment of species in the Rockaway River. An ecological assessment on the terrestrial community was not conducted. The baseline assessment concluded that historical and current conditions of the site are not impacting the biological community in the sediment or water environments of the Rockaway River. This conclusion was not based on a specific presumptive remedy (i.e., a soil lead excavation alternative). The original clean up level in the ROD was based on the understanding that receptors were protected with levels of lead remaining on-site below 600 ppm, (the Non-Residential Direct Contact Soil Cleanup Criteria) in soils, without any engineering controls. The new containment remedy will leave lead levels of 400 ppm, therefore, based on the original ecological assessment and the fact that the proposed remedy involves a remediation level of 400 ppm, vs. the ROD remediation goal of 600 ppm, further ecological assessment is not necessary at this time. However, it is important to note that an ecological risk assessment should be conducted in the future to develop a remediation goal which is ecologically protective, if for any reason the proposed cleanup level off 400 ppm were to increase,

or remediation activities which will be later outlined during design, were to prove to directly impact or alter portions of the wetlands or Rockaway River. During the meeting in September 2002, between the NJDEP, EPA and representatives of the PRP, held at EPA's facility in Edison, New Jersey, a representative of the Biological Technical Assistance Group (BTAG) had made a similar note to this point.

18. Part of the justification for the reuse of lead contaminated material on-site involved the Synthetic Precipitation Leaching Procedure (SPLP). The SPLP is primarily used to determine the appropriate disposal procedure and does not address the uncertainties associated with the determination of site-specific leachability over the long term. However, there is NJDEP draft internal guidance where the SPLP is used to determine whether inorganic soil contamination may impact groundwater in the future. The guidance recommends that the leachate concentration should be below the groundwater standard X a dilution-attenuation factor("DAF"). A default DAF of 11 is used for NJ conditions. The NJDEP should assure that the guidance has been applied appropriately for the proposed on-site reuse remedy.
19. Page 4-8, Section 4.5.2: This alternative proposed to use soils with lead concentrations greater than 400 mg/kg as backfill in the excavation areas. This concentration is protective of human health based on chronic long-term exposures. What is the maximum concentration of lead which would be included in this backfill material? Certainly, it would not be protective of public health to leave behind soil with lead concentrations that may pose an acute or subchronic health risk. What is the thickness of the proposed cap of granular fill material? Is any type of liner included in this proposal? What is the thickness of the proposed optional cover of topsoil? This information is necessary to determine the appropriateness of using soil contaminated with lead at a concentration exceeding cleanup goals onsite. See also comment 8.
20. Page 4-11, paragraph 3: The text in this paragraph states that the value of 600 mg/kg was developed based on a soil ingestion exposure pathway. This is not entirely correct. This value was identified from an integrated exposure uptake model, which looked at exposure through several relevant pathways. Please revise the text to more accurately describe the basis for this value.
21. Regarding the Conceptual End-Use Plan (as presented on Figure 4). As you know, during several telephone discussions, including during the September 2002 between the NJDEP, EPA and representatives of the PRP, held at EPA's facility in Edison, the PRP's consultant indicated that the FFS would consider the future use of the site to be a combination of mixed municipal usage which involved a new municipal building, bike/hiking trail, roadway, and might possibly also involve a play area, tennis or

basketball courts, swimming pool, and other similar recreational usage and an attendant parking lot. However, Figure 4 appears to not to include a foot print for a municipal building or swimming pool, and a possible building or buildings have not been clearly identified in the text. If either are being proposed, then both text and figures should clearly indicate this. The current figure 4 only includes a roller/ice hockey rink, tennis and basketball courts, horseshoe pits and road way. Where are the municipal buildings or swimming pool? In addition, what are the large gray areas to be, parking lots? For the purposes of the FFS and any potential ROD change being considered, it is important that the conceptual end use plans being presented and evaluated will match the ultimate end use, or the evaluation and assumptions may no longer be protective of public health and the environment. In addition, it should be noted that the conceptual end-use plan presented in the FFS is not a credible design. The FFS should model specific proposed remedial options for projected risks associated with contamination present and projected future site use.

22. Page 4-17, states that the proposed future use of the property is a mixed municipal use and that exposures to site-related environmental media under this scenario are expected to be much less than what would be expected for a residential exposure scenario. From Figure 4, it appears that the property will be used solely for recreational purposes. Please clarify (also refer to Comment 21.)
23. Page 5.3, Community Acceptance, the text states, "The community has expressed support for the proposed end use plan of this site for municipal use." It further states, "...this criterion is not discussed in this FFS, but will be addressed upon receipt of comments." What community acceptance has been noted and received? How was it obtained? By whom? When and where will this be documented? The original ROD called for the excavation of lead impacted soils to be excavated and removed off-site, the community did not comment on a possibility of a remedy that proposed to leave lead impacted soils on-site during the original ROD process. Because the FFS recommends a change in the hazardous waste management approach for the Site, alters the scope of remedy (i.e., remediation goals, type and volume of wastes) and the long-term effectiveness of the current remedy, in order to justify such a change in the ROD, EPA believes this will require a ROD Amendment, with a public comment period. See Comment 1, above.
24. Page 5-4, it would help the reader if the comparison of alternatives were specifically compared to the 9 criteria, which present a standard and not arbitrary criteria for comparison, in order to help evaluate which remedial approach and alternative is ultimately better.

25. Page 5-9, Section 5.3.1: Please clarify the depth of soils considered to be "surficial" and "deeper."
26. Page 5-12: The text states that onsite workers "...will have to be addressed by utilization of appropriate personal protective gear and institution of appropriate construction worker health and safety plans." The baseline risk assessment must evaluate all populations exposed to contaminants at a site; this FFS must be consistent with that approach, and should consider any worker exposure to lead-contaminated soils. It is not adequate to merely pass off this assessment to the health and safety plans.
27. Tables 4, 5, 6, and 7 - Total costs for Alternative 2, capping reuse, is presented as \$3,215,540, and for original ROD approach, Alternative 1, is \$3,777,960, a difference of approx. \$555,000. This is not a large amount to begin with, however, Table 7 has the cost differential as \$703,025, a higher amount attributed to the difference in Engineering and Consulting fees. Why are the Engineering costs reportedly the same for both alternatives 1 and alternative 2? See also Table 3 and Table 5, reported as \$515,000 for each. In addition, as mentioned previously, remedial costs for Alternative 2 must include O&M costs.
28. Figures 4 - 9: It would be helpful to include the hot spot areas on all maps, so that it is easy to identify these areas relative to redevelopment plans (Figure 4), floodplains (Figure 5), lead-impacted soils (Figure 6), remedial excavation plans (Figure 7), and the plans for the two alternatives (Figures 8 - 9).
29. Figure 7, Remedial Excavation Plan, states that A-2 soils are predominantly under 400 mg/kg lead, but anticipated to have some "hot spots", and that the material will be stockpiled and tested to determine suitability of reuse. What is the overall extent of the site soils impacted by levels of lead exceeding 600 mg/kg? It appears that the proposed criterion for differentiating between Category B (process waste) soils and other lead impacted soils (Category A) is to be visual inspection. How will be materials be segregated? Continuous oversight from the regulatory agencies will be needed to document full segregation of these materials, and it should be noted that some quantities of Category A materials may be highly contaminated. There is also uncertainty as to the proposed remediation goal of 400 mg/kg lead. Section 4.7.2 states that this limit is only for 'exposed' soils. Please clarify the depth to be considered for an "exposed soil" and clarify the maximum limit proposed for lead impacted soils that are to be buried on site.

Specific Environmental Review Comments:

The following location-specific ARARs and TBCs are applicable for this site:

**National Historic Preservation Act;
E.O. 11990, "Protection of Wetlands;"
E.O. 11988, "Floodplain Management;"
EPA's 1985 Statement of "Policy on Floodplains/Wetlands Assessments
For CERCLA Actions;"
Endangered Species Act**

Cultural Resources

The National Historic Preservation Act is an ARAR for this site. EPA had previously reviewed the 1991 Stage IA Cultural Resource Survey (CRS) for this site and found that the report presented the results of an adequate Stage IA CRS.

Based on the conclusions presented in the original Stage IA CRS report that had been completed for the site in 1991, and a site visit of 5/20/03 by the Remedial Project Manager, archeologist and representatives of the EPA, the overall sensitivity of the project area for the potential discovery of unidentified prehistoric and historic resources remains a moderate concern for this site, especially as the site is located adjacent to the Rockaway River.

The original 1991 Stage IA CRS had indicated the overall sensitivity of the project area for the potential discovery of unidentified prehistoric and historic resources. The purpose of the site visit was to carry out a surface inspection of the ground, and associated environmental features, to evaluate the effect of past ground disturbing activities on the historic potential of the site.

While there is clear evidence of past ground disturbance, it does not appear to have been uniformly applied to the entire area of potential effect. This is especially the case below the asphalt pad for the original parking area, as well as in the wetlands area and area adjacent to the Rockaway River. That coupled with the overall close proximity of the river to the entire project area, continue to define this as having a moderate sensitivity, especially below any fill, as had been identified in the Stage IA CRS. To determine the presence or absence of historic properties it will be necessary to carry out limited subsurface archaeological testing, therefore, a Stage IB CRS should be carried out for selected areas within the project area. To assist in this effort, and to maintain project continuity and progress, this work can be completed as soon as possible. If needed, the New Jersey State Historic Preservation Office (NJSHPO) can supply the contacts for other qualified CRS firms working in New Jersey, and meeting the requirements for hazmat environmental work.

Wetlands

Executive Order 11990 ("Protection of Wetlands") and EPA's 1985 "Statement of Policy on Floodplains and Wetlands for CERCLA Actions" require that remedial action alternatives be evaluated for how they may potentially impact wetland areas. In order to comply with these wetlands ARARs/TBCs, a wetlands delineation, wetlands assessment, and

wetlands mitigation plan is needed for any wetlands impacted or disturbed by contamination and/or remedial activities. For example, it is not enough for the FFS to simply say that it is not expected that a significant number and variety of species will inhabit the potentially impacted areas? On what basis does L.E. Carpenter not expect a significant number and variety of species to inhabit these areas?

A wetlands delineation ("Wetland Investigation Report") was completed in December, 1992 and the results were presented in the January 15, 1992 Wetlands Assessment Report ("Wetlands report") for the site. The Wetlands report determined that wetlands and State open waters occur on-site and on immediately adjacent properties. Three vegetative communities were identified within the property: disturbed successional area, palustrine emergent wetlands (PEM) and palustrine forested wetlands (PFO1). Based on review of the FFS (see also Figures 5 and 7), it appears that an area of wetlands could possibly be excavated as part of the proposed remedial. If this is the case, the approximate square footage of this area and vegetative community types impacted should be provided in the FFS for review and analysis. In addition, any areas of wetlands that will be impacted must be clearly identified on a map in sufficient scale, and a wetlands assessment will also be needed in order to comply with applicable ARARs/TBCs. Therefore, in addition, the January 15, 1992 Wetlands Assessment Report ("Wetlands report") for the site would have to be modified and updated. This is because the remedial options evaluated in 1992 are different from the remedial action being proposed in the current FFS. The remedial action in the FFS proposes that the contaminated soil (with the exception of Category B process wastes) be stockpiled for reuse as backfill.

The FFS should clearly identify the footprint location where the excavated materials will be stockpiled and staged. These areas should be clearly identified on a wetlands map. If stockpiled and staged material will be located in or adjacent to the wetlands, then the potential impacts of stockpiling, transportation and then replacing the contaminated soil on site would have to be evaluated with respect to the surrounding wetlands, therefore, as above, the existing 1992 Wetlands report would need to be updated and modified to account for these changes and impacts.

In addition, the excavation of contaminated soils that were evaluated for Alternatives 5 and 6 of the 1992 Wetlands report are similar to the remedial action currently being proposed in the FFS. Alternatives 5 and 6 were determined to cause extensive disturbances within both the wetlands and the floodplains. As a result, the Wetlands report concluded that a wetlands mitigation plan would need to be prepared if these alternatives were to be selected. Since the present remedial action being proposed in the FFS maintains the excavation component of Alternatives 5 and 6 outlined in the 1992 Wetlands report, as above, there may be disturbances within both the on-site wetlands and floodplains. If this proposed alternative is selected, a wetlands

mitigation plan will be needed and must be completed as part of this remedial action. The FFS makes no indication that this has been or will be completed. A revised FFS report should comment and clarify these points.

Based on the above, and as outlined in EPA's comment letter of July 19, 2002, comment 5, if a revised wetlands assessment and wetlands mitigation plan must be completed, the wetlands delineation and assessment should include the following:

- A brief discussion of the impacts of the preferred remedial alternative as well as those alternatives not selected;
- A functional assessment of wetlands resources (including the completed characterization of existing flora and fauna);
- The potential effects of contaminants on wetlands resources;
- Measures to minimize potential adverse impacts that cannot be avoided,
- Replacement for wetlands losses (mitigation); and
- A post-mitigation wetlands monitoring plan. In addition to this, any associated O&M costs should be presented and factored into the costs of the proposed remedy.

Floodplains

A floodplains delineation has been provided (Figure 5). The majority of the site lies within the 100-year floodplain of the Rockaway River. Parts of the site may also be located within the 500-year floodplain although this has not been indicated on the map. Accordingly, in compliance with Executive Order 11988 ("Floodplain Management") and EPA's 1985 "Statement of Policy on Floodplains and Wetlands for CERCLA Actions", a floodplains assessment must be completed for the site. At this time, there is no indication that the assessment has been completed or will be completed. In addition to a floodplains delineation where both 100-year and/or 500-year floodplains found within the site are delineated on maps of the site, a floodplains assessment should also include:

- A description of the proposed action;
- the effects of the proposed action on the floodplain;
- a description of the other remedial alternatives considered and their effects on the floodplain; and
- measures to mitigate potential harm to the floodplain if there is no practicable alternative to locating in or affecting the floodplain, including impacts to the proposed remedial action from flooding events during and after implementation of the remedy.

Once the floodplains delineation and floodplains assessment are completed, they should be forwarded for review and comment.

Endangered Species

Pursuant to Section 7 of the Endangered Species Act, on May 1, 1991 we initiated informal consultation with the U.S. Fish and Wildlife

Service (FWS) to determine whether there are any federally listed endangered/threatened species or critical habitats present on or in the vicinity of the site. Their response, of June 3, 1991, recommended that a survey be conducted to determine the absence or presence of the federally threatened plant species *Helonias bullata* (swamp pink). According to the FWS, swamp pink was documented to exist in forested wetlands within ten miles of the site. Our records indicate that a "Draft Habitat Survey Work Plan for the Threatened Swamp Pink" was completed in 1992, however, we do not have a copy of this report. At the present time, based on the information on file, there seems to be no evidence that swamp pink either exists onsite or on adjacent wetlands. In addition, at this time there are no concerns with respect to other threatened and endangered species at or in the vicinity of the site. However, we would please ask that two copies of the habitat survey report for swamp pink that was conducted by Ecolsciences in 1991 or 1992, be submitted to update and complete the site file.

Other Environmental ARARs and TBCs

This site does not fall within, and does not impact upon, the coastal zone as designated by New Jersey, nor is it located near a designated coastal barrier. Also, this site does not affect any wild and scenic rivers, wilderness areas, or significant agricultural lands. Therefore, the Coastal Zone Management Act, the Coastal Barrier Resource Act, the Wild and Scenic Rivers Act, the Wilderness Act, and the Farmland Protection Policy Act are not ARARs for this project.